



**City of Detroit**

---

**OFFICE OF  
THE AUDITOR GENERAL**

**Review of the  
Department of Elections'  
Absentee Vote  
Tabulation Process**

**November 2002**




JOSEPH L. HARRIS, CPA, CIA  
AUDITOR GENERAL  
CITY OF DETROIT

COLEMAN A. YOUNG  
MUNICIPAL CENTER  
2 WOODWARD AVENUE, SUITE 208  
DETROIT, MICHIGAN 48226  
PHONE 313•224•3101  
FAX 313•224•4091  
WWW.CI.DETROIT.MI.US

## MEMORANDUM

**DATE:** November 26, 2002

**TO:** Mayor Kwame Kilpatrick  
Honorable City Council

**FROM:** Joseph L. Harris  
Auditor General 

**RE:** Review of the Department of Elections' Absentee Vote Tabulation Process

---

Attached for your review is our Review of the Department of Elections' Absentee Vote Tabulation Process. This report contains an executive summary; purpose, scope, and methodology; background; applicable laws; synopsis of changes made to the absentee ballot tabulation process between the August and November 2002 elections; observations and results of the November 2002 tabulation process; conclusion and recommendations; excerpts from Michigan's election law pertaining to the absentee vote tabulation process, and comparison of Detroit's process with other Michigan municipalities and US cities.

We appreciate the cooperation that the officials and employees of the Department of Elections extended to us during the review.

**Review of the Department of Elections’  
Absentee Vote Tabulation Process  
November 2002**

**Table of Contents**

Executive Summary	1
Introduction	4
Background	5
Applicable Laws	7
Reengineering the Absentee Vote Tabulation Process	8
November 2002 General Election	12
Conclusion and Recommendations	14
Appendix A – Excerpts from Michigan Election Law	16
Appendix B – Benchmarking Results: Selected Michigan Municipalities	22
Appendix C – Benchmarking Results: Selected US Cities	27

## **EXECUTIVE SUMMARY**

### **Introduction**

The Office of the Auditor General (OAG) conducted a review of the efficacy of the Department of Elections' absentee vote tabulation process for the November 5, 2002 general election. The scope of the review was narrowly defined to the absentee vote tabulation process, which includes verifying that returned ballots are valid, tabulation of all absentee votes, reporting the results to the Department of Elections, securing the ballots, and performing the associated administrative tasks as required by law. The OAG considered the validated ballots an input into the tabulation process and did not review the actual verification procedure.

Michigan's election law specifies the procedures that must be followed by government to conduct an election. Within the confines of the law, local election officials determine the process for tabulating their respective jurisdiction's absentee votes. The law is continually updated to accommodate changes in technology and voting equipment. When a vote is cast in person, voting equipment has the ability to prevent voter error or notify the voter that the ballot contains an error, and allow the voter to cast a corrected ballot. Since the absentee voter does not have the opportunity to correct an invalid ballot, the responsibility of identifying, reviewing and correcting the incorrect ballot falls upon the local election inspectors. Beginning in November 2001, rules were implemented that required the specific identification (outstack) and review of absent voter ballots containing errors. If the reviewed ballot meets certain guidelines, the entire ballot must be duplicated (copied) and then tabulated.

In Detroit, the additional absent voter ballot requirement resulted in the need to reprogram high-speed tabulating equipment and add steps to review and duplicate the outstacked ballots. During the August 2002 election, the Department of Elections' absent voter ballot tabulation process failed to count all valid votes in a timely and efficient manner. The failure of the process resulted in a delay of the submittal of Detroit's election results to the Wayne County Canvassing Board and brought criticism of the Department.

Between August and November 2002, the Department of Elections reengineered its tabulation process by redefining the workflow and changing tabulation equipment in order to better meet the requirement to review ballots completed incorrectly, and duplicate those that meet state guidelines.

### **Overall Findings**

The changes made to the absent voter ballot tabulation process effectively addressed previous processing barriers and achieved the Department's goal of counting ballots in a timely manner. The Central Counting Board tabulated 50,454 ballots in 19-1/2 hours, 6-1/2 hours after the polls closed. The new process resulted in the tabulation of more ballots in a substantially shorter amount of time.

The move from high-speed ballot tabulation equipment to the single-feed Optech Eagle readers made identification of the cause of ballot errors much easier. A post-it placed on the rejected ballot streamlined the outstacked ballot review process.

Staffing the Central Counting Board with spare tabulating machines and technicians decreased the downtime associated with malfunctioning equipment. Equipment failures and repairs had very little impact on the amount of time equipment was available for ballot tabulation.

Fewer tabulation boards, with increased tabulation responsibilities, kept each precinct's process self contained and contributed to the efficiency of the overall process.

Ongoing and widespread monitoring of each tabulation board's progress led to the identification of those boards where ballots were counted slowly. Section Supervisors were able to assess the cause of the slow processing and make adjustments to the tabulation board or process to ensure timely completion of ballot tabulations.

The risks associated with implementing an entirely new process were effectively mitigated through teamwork and by training, process testing, and flexible staffing of backup workers and on-site technicians. A management consulting company conducted time studies to verify the feasibility of workers finishing the job in the desired timeframe prior to the implementation of the new process.

### **Recommendations**

Continue public outreach efforts to educate voters on the proper procedures to follow when completing their absentee voter ballots. Ballots that are voted correctly will not be outstacked, and will not required additional resources on Election Day.

Continue efforts to encourage absentee voters to return their ballots prior to Election Day. Early receipt of ballots allows the processing board the opportunity to validate the ballot before Election Day.

Continue the absentee vote processing board goal to validate all ballots received prior to Election Day before the polls open on Election Day. Delivery of the maximum number of validated ballots to the tabulation boards for the first run eliminates the need for additional tabulation runs and the associated tasks, thereby decreasing the overall processing time.

Continue using self-contained tabulation boards, with each board responsible for tabulation, resolving issues related to outstacked ballots, and duplicating ballots. Spreading the tabulation and duplication efforts between more election inspectors speeds overall processing.

Continue the training requirement for all election workers. Require all workers attend a training session before each election, rather than one time per year, as a process refresher. Training is especially important since elections are held intermittently. Even veteran workers need to be re-educated on process steps, changes in state law and new guidelines.

Continue posting job aids at all workstations.

Continue setting internal benchmarks and monitoring the progress of the tabulation boards throughout Election Day in order to resolve problems individual boards are having with tabulating its precincts. This monitoring control ensures that the tabulation process stays on schedule during the day.

Use members of tabulation boards that have completed processing their assigned precincts to assist those that have not finished. Ballot duplication is the most time consuming and resource consuming portion of the tabulation process. Allowing workers to assist other boards would reduce some worker's downtime and reduce the overall tabulation processing time.

Investigate the use of multiple Internet connections and memory pack readers to transmit preliminary election results to Department of Elections offices. The process took around 50

minutes using one transmission reader. Using multiple transmission sites spread throughout the Central Counting Board would shorten the downtime associated with this process.

Continually critique the overall process to identify process bottlenecks or problems and find solutions. The success of the November 2002 tabulation process was due to the identification of equipment and performance bottlenecks and finding alternative solutions. Continually assessing the process will lead to a better, solid, streamlined, more efficient process.

Continue working with the Michigan Bureau of Elections to refine outstack and duplication requirements to ensure that all valid votes are accurately counted. Examine the requirement to duplicate entire ballots, when the vote for only one race has been completed incorrectly. Review the rules for ballot duplication to ensure that they include the causes of most voter errors.

Continue to measure and monitor the causes of outstacked and duplicated ballots. Detroit processes more absentee voter ballots and duplicates more ballots than any other Michigan jurisdiction. Department of Elections officials should be able to provide valuable information to the State that can be incorporated into election law and guidelines to ensure that every vote is counted.

## **INTRODUCTION**

### **Purpose**

The Office of the Auditor General (OAG) conducted a review of the efficacy of the Department of Elections' absentee vote tabulation process immediately before and during the November 5, 2002 general election.

### **Scope**

The scope of the performance audit was narrowly defined to the absentee vote tabulation process. While some pre-tabulation work can be performed early, the bulk of the tabulation process begins at 7:00 am Election Day and continues until all absentee votes have been tabulated, the results have been reported to the Director of the Department of Elections, the ballots have been secured, and the associated administrative tasks have been completed.

### **Approach and Methodology**

To evaluate the process, the OAG determined the boundaries of the process by researching state election law and interviewing Michigan Department of State, Bureau of Elections personnel. The OAG identified changes made to the absentee vote tabulation process between the August 2002 and November 2002 elections by interviewing Department of Elections management, attending a pre-election process walk-through, and reviewing internal department process and procedure documentation. Before the election, the OAG assessed the viability of the new absentee vote tabulation process and concluded that it was sound.

On Election Day, OAG auditors observed the tabulation process from the opening of the polls at 7:00 am through the transmission of the preliminary results to the Election Commission following the closing of the polls at 8:00 pm.

In addition, the OAG benchmarked the absentee vote tabulation processes utilized by other Michigan cities as well the process used by several large cities throughout the country to determine which, if any, "best practices" could be incorporated into Detroit's process.

## **BACKGROUND**

Detroit began using high-speed equipment to tabulate absentee votes in 1998. After the validity of the ballot was confirmed and removed from the return envelope, each ballot was visually pre-screened for obvious voter errors. Ballots containing problems (wrong color ink, mangled in mail, etc) were duplicated. Ballots were bundled and batched by absent voter precincts and fed through a high-speed machine, which tabulated the results. Any ballot that contained an error was not tabulated for the particular race containing the error. Hence, it would not be uncommon to feed 100 ballots in total, and have 98 valid votes for governor, 97 valid votes for Secretary of State, and 99 valid votes for attorney general, etc.

### **November 2001 General Election**

Before the November 2001 election, the Secretary of State's Office issued a statewide guideline that required tabulation machines outstack (reject) ballots where (1) no ballot was voted, (2) the voter split the ticket in the primary, or (3) where a race is over voted (the number of votes read exceeds the number of candidates to be elected for that office). The guideline was instituted when, during a recount, the Michigan Bureau of Elections found that some valid votes had not been counted. The guideline required that tabulation boards review the outstacked ballots to determine the reason the ballot was not read and, using the guidelines, decide whether the intent of the voter could be determined. If the voter's intent could be determined, the ballot was to be duplicated, in its entirety, showing that intent and then presented again for tabulation.

Prior to the election, Department of Elections officials ran a sample batch of 4,000 ballots. Of the 120 ballots that were not read by the tabulator, 5 ballots met the requirements for duplication. The State's position was that the five ballots should be counted. Department of Elections officials concluded that the effect of implementing the guideline on election results would be negligible, so it did not incorporate the change into its absent vote tabulation process.

During the course of the Michigan Bureau of Elections' routine observation of the absentee vote tabulation process, officials found that Detroit was not following the guideline. At the request of Detroit's mayoral candidates, a Wayne County Circuit Judge ruled that the guideline must be followed. By the time the ruling was made, Detroit election officials had revamped their process to incorporate the outstacking requirement. The delay and process change caused the absentee vote tabulation to be completed by 6:15 pm Wednesday, more than 22 hours after the polls had closed.

### **August 2002 Primary Election**

The Department of Elections planned to use the new outstacking process for the August 2002 primary election. High-speed tabulating machines were programmed to outstack the ballots containing errors. Rejected ballots were to be reviewed, duplicated and reprocessed as required by the state. On Election Day, officials found that the high-speed tabulating machines, which worked well processing batches of ballots, jammed when required to separate the unreadable ballots. In addition, the accommodations made to review the outstacked ballots and make duplicates were a bottleneck to the process. The absentee vote tabulation process was not completed until 2:00 pm Thursday, 42 hours after the polls closed and 25 hours after the County Canvassing board convened.

The slow tabulation process caused Secretary of State, Candice Miller to publicly criticize Detroit's absentee vote counting process. Ms. Miller laid out specific criticisms of the Department of Elections' process in an August 27, 2002 letter to Detroit's City Clerk, City



Council Members, and the Mayor, which included points on pre-election preparations, tabulation equipment, staffing and training, and absentee ballot processing. Ms. Miller requested that the City hire a management consultant to examine its absentee voter process and update its procedures for processing absent voter ballots by September 20, 2002.

Jackie Curry, Detroit's City Clerk, responded to the criticism by stating that the problem counting absentee ballots was not due to the City's process. Ms. Curry blamed outdated regulations that were no longer in sync with the population's current voting practices as the reason for the missed deadlines, and she proposed allowing the City to begin tabulating absentee ballots earlier than Election Day. Such a change would require a change to the State's election law.

At the August 20, 2002 Election Commission meeting, Department of Elections personnel commented that the changes requiring outstacking increased the time necessary to tabulate ballots without moving the deadline for submitting tabulation results back to accommodate the additional work required. The Commission's proposed solution was to purchase several more high-speed tabulation machines and work to change the state election law to allow the early tabulation of absentee ballots.

Immediately following the August 6 election, department personnel were already at work redesigning the process to replace the high-speed tabulators with Optech Eagles, the tabulators used at the precincts. During the special election held on August 27 to fill the state seat vacated by Kwame Kilpatrick, the Department of Elections tested its revised process using one Optech Eagle to process 900 absent voter ballots. On September 18, Department of Elections officials attended a demonstration of Farmington Hills' absentee vote tabulation process, which confirmed that a large number of ballots could be processed using the single-feed tabulators.

As suggested by the State, a management consulting company was hired in early September 2002. Rather than reengineer the process, the consulting company served to validate the process reengineering changes that were already underway. The consulting company conducted time studies to ensure that the planned tabulation process could be completed within the Department's required timeframe. Time study results, simulating 1,100 ballots per tabulator, indicated that it would take two hours to process the ballots and outstack the rejected ballots. It would then take an additional seven hours to review the outstacked ballots and complete the duplication process.

To raise the Department of Elections and the State of Michigan officials comfort level with the new process, the Department of Elections conducted several process "walk-throughs" to demonstrate the effectiveness of the process.

## **APPLICABLE LAWS**

### **Detroit City Charter**

Article 3, Section 3-102, of the 1997 Charter of the City of Detroit establishes that the duties of the Department of Elections are to plan, monitor and administer all elections of the city and creates the Election Commission to head the department. The Election Commission is to be composed of the City Clerk, the President of the City Council and the Corporation Counsel. The Elections Commission is charged with appointing an experienced municipal election administrator as director of the department who will conduct the City's voter registration and perform election planning, monitoring and administering duties. Furthermore, the Commission is charged with performing all duties required of an election commission by law and prescribing procedures to follow when the procedure is unclear.

Article 3, Section 3-104 of the City Charter states that the applicable state law will determine the actions of voters, candidates and the conducting and canvassing of elections unless otherwise set forth in the City's Charter or ordinances.

The 1999 City of Detroit Municipal Manual contains a detailed listing of the planning, monitoring and administering duties of the Department of Elections:

1. Supervise all elections in the city;
2. Provide places for voting;
3. Provide ballots for voting devices;
4. Prevent fraud and corruption in registration, voting or counting of votes, and purge the registration records of those not eligible to vote;
5. Change precinct boundaries so the number of voters does not exceed the number provided for by State law;
6. Appoint qualified election officers for each election;
7. Provide for the examination of applicants for the position of election officer; and
8. Prosecute anyone believed guilty of violation of election laws.

### **Michigan Election Law, Chapter 168, Public Act 116, as amended**

Detroit's Department of Elections conducts elections following the rules and guidelines established by Michigan Public Act 116 of 1954. Michigan is one of eight states that administer elections on the local level. Using 2,438 county and local election officials, Michigan's system is the most decentralized in the nation.

Although the election is administered on the local level, county election commissions and the county board of canvassers play a role in local elections by furnishing election supplies, clarifying wording on ballot proposals, canvassing the votes cast, and certifying elections. Michigan's Secretary of State is the "chief election officer" giving him/her jurisdiction over election officials in the performance of their election related duties. The Secretary of State is ultimately responsible for the election process and results.

Michigan's election law, in its entirety, can be found online at the Michigan Legislative web site ([www.michiganlegislature.org](http://www.michiganlegislature.org)). Excerpts from the law pertaining specifically to the absentee vote tabulation process are included as Appendix A of this report.

## **REENGINEERING THE ABSENTEE VOTE TABULATION PROCESS**

A jurisdiction must establish its Central Counting Board(s) for processing and tabulating absentee votes, and state the maximum number of ballots that may be processed and tabulated by each board no later than ten days preceding an election. Rather than establishing many small boards, Detroit establishes one large board to count all ballots. This practice gives the Department of Elections flexibility in assigning workload to board members and moving workers between specific tasks.

The Michigan Department of State, Bureau of Elections' publication, "Instructions for the Conduct of Absent Voter Counting Boards", published in October 2002, separates the responsibilities of the counting board into two separate and distinct tasks.

- Processing the absent voter ballots and absent voter ballot applications, and
- Counting the votes.

The publication notes that the processing steps are relatively standard throughout the state, while the tabulation task will vary among jurisdictions depending on the voting equipment in use. The publication fails to note that the complexity of the tabulation task increases as the number of ballot styles or compositions increase. Due to the overlap of state and local district lines, Detroit had 54 different ballot compositions for the November 2002 election.

In the past, Detroit has divided its Central Counting Board into four distinct subunits to handle the various sub-sections of the overall process. For the November 2002 election, the counting board was divided into two subunits; with the tabulation boards assigned the responsibilities of tabulating, reviewing outstacked ballots and duplicating any ballots meeting the requirements. The distribution of specific processing steps between the work groups and the changes made between the August 2002 primary and November 2002 general elections are described below.

### **Absentee Voter Processing Board**

The processing steps assigned to the Absentee Vote Processing Board (AVPB) did not change between the August and November 2002 elections. The AVPB dates and time stamps the returned ballot envelopes, verifies that the signature on the return envelope matches the signature on the absent voter ballot application, records the number of the ballot issued to the absentee voter on the outside of the return envelope, sorts the ballot by AV precinct, counts the number of ballots received for each precinct and the number of names recorded in the poll book, compares the numbers and resolves any difference. Then, the ballots are passed to the tabulation board for further processing.

	<b>August 2002 Primary Election (Actual)</b>	<b>November 2002 General Election (Plan)</b>
Number of workers to be assigned to the AVPB	212	175 – 200
Number of days prior to the election that the board is convened	Saturday (3 days prior)	Saturday (3 days prior)
Percentage of ballots received prior to Election Day that should be processed by the AVPB prior to Election Day	74%	100%

Because fewer than 10% of the returned absentee voter ballots were expected to be received on Election Day, much of the AVPB's work can be completed before the polls open. To improve the process, the Department of Elections planned for the AVPB to complete its work on all of the absentee ballots received prior to Election Day by Monday evening, so the ballots could be delivered to the precinct tabulation boards before 7:00 am Election Day.

## **Tabulation Board**

The most important change made to Detroit's AV tabulation process for the November election was the consolidation of the remaining processing functions with the duplication and tabulation functions. Fifty self-contained tabulation boards were planned, each responsible for tabulating the ballots received from two of the 100 AV precincts. Each tabulation board was charged with

- Opening the return envelopes,
- Verifying that the number of the ballot inside the envelope matched the number of the ballot mailed to the absent voter,
- Removing the identifying ballot stub,
- Visually inspecting the ballot for readability,
- Tabulating the ballots, and
- Outstacking any ballots that were rejected by the tabulation machine.

When all ballots for an AV precinct had been presented for tabulation, the tabulation board finished processing the precinct by:

- Reviewing the outstacked ballots to determine those that should be overrode and those that should be duplicated,
- Duplicating ballots,
- Tabulating the outstacked ballots, and
- Reconciling the poll book with the tabulation readout.

The fifty tabulation boards were grouped into five sections with a Section Supervisor and Section Superintendent to answer questions, provide guidance, and monitor the progress that individual boards were making toward completing its tabulation process.

During the planning process, Department of Elections personnel spoke of the need to monitor the individual board's progress and the needed ability to move workers from board to board or from the AVPB to tabulation boards if individual boards were not processing the returned ballots quickly enough.

	<b>August 2002 Primary Election (Actual)</b>	<b>November 2002 General Election (Plan)</b>
Number of AV precincts	100	100
Number of Work groups	100	50
Number of workers to be assigned to each work group	2	6
Distribution of Work Assignments:		
• Opening the return envelopes	Precinct Table	Tabulation Board
• Verifying the ballot number written on the return envelope and the ballot number on the returned ballot match	Precinct Table	Tabulation Board
• Remove the stub from the returned ballot	Precinct Table	Tabulation Board
• Remove the ballot from the secrecy sleeve	Precinct Table	Tabulation Board
• Stack the ballots for processing	Precinct Table	Tabulation Board
• Tabulate the ballots	4C High-Speed Tabulator Operators	Tabulation Board
• Determine the reason any ballots were not tabulated	Ballot Verification Board	Tabulation Board
• Override ballots that were over voted	Ballot Duplication Board	Tabulation Board
• Duplicate ballots and tabulate	Ballot Duplication Board	Tabulation Board

	<b>August 2002 Primary Election (Actual)</b>	<b>November 2002 General Election (Plan)</b>
<ul style="list-style-type: none"> <li>Reconcile total precinct ballots to ballots tabulated for precinct by machine</li> </ul>	Reconciled at each phase of operation from AVPB to Tabulation	Tabulation Board

### **Precinct Tables (Incorporated into Tabulation Board in November)**

Precinct tables were used in the August primary to prepare the ballots for tabulation. Two election workers received a precinct's ballots from the AVPB, and continued processing the ballots for tabulation by:

- Opening the return envelopes,
- Verifying that the ballot inside the envelope matched the ballot number mailed to the voter,
- Removing the identifying ballot stub, and
- Preparing ballots for tabulation.

Any ballots that were mangled, voted with an incorrect writing implement, or appeared as though the high-speed reader would not read it were taken to the Ballot Duplication Board for duplication. When all the ballots for a precinct were prepared, they were bundled and presented to the 4C High Speed Tabulator Operators to be counted by the high-speed readers.

### **Tabulating, Reviewing and Duplicating (Incorporated into Tabulation Board in November)**

In August, a high-speed tabulator operator entered a sequence number into the tabulator to identify the ballot type and precinct, and placed the stack of ballots in the reader's feeder bin. The tabulator read the ballots one by one and separated the output into two bins: one containing ballots that had been read and one containing ballots with an error making at least a portion of the ballot untallyable.

The uncounted ballots were taken to the Ballot Verification Board to determine the reason the ballot was not read. If the Review Board determined that a particular ballot met the criteria for duplication, the ballot was marked with an x in the upper right-hand corner. The ballots requiring duplication were then passed to the Ballot Duplication Board. Twenty one people, working in groups of three, would prepare duplicate ballots as requested for all 100 precinct tables and the Ballot Verification Board. This function severely slowed the overall tabulation process.

When the duplication of ballots was complete, the reviewed outstacked ballots and duplicates were delivered back to the high-speed reader operator for additional tabulation. The operator was required to again key in the ballot sequence number to the high-speed reader before processing each ballot type.

	<b>August 2002 Primary Election (Actual)</b>	<b>November 2002 General Election (Plan)</b>
Type of Tabulating Equipment	4C High-Speed Tabulating Equipment	Optech Eagle Single-Feed Reader
Number of tabulating machines	6	50
Number of back up machines	0	5
Number of technicians on hand	3	5

### **Hiring and Training**

The Department of Elections hires 6,000 workers for each election. The city maintains a list of active election workers, and most poll workers return year after year. The Department of Elections recruits workers in high schools and colleges. Once a worker turns 18, they are required to be a registered voter. Each new applicant is required to complete an application and a clerical test, which measures reading, as well as alphabetizing, mathematical and comprehension skills.

The City of Detroit requires its poll workers attend training one time per year to stay current on new developments. This requirement exceeds Michigan's election law requirement of training once every two years. The Department of Elections holds professional training classes, including lectures, videos and hands-on training that start six weeks prior to the election. Certification that the worker attended training is used by the Department of Elections to schedule Election Day work assignments.

### **Additional Planning**

The Department of Elections approached Election Day with some trepidation because all of the absentee vote tabulation workers, even those who were veterans, would be using a new process. Historically, there has been a "shift change" at 8:00 pm after the polls close and the sequestering requirement ends. This change in workers, and the consequential possibility that a smooth process could turn bad, especially concerned department management. To combat this risk, during the training sessions, management warned workers that they might be asked to remain until the entire absentee vote tabulation process was complete.

## **NOVEMBER 2002 GENERAL ELECTION**

Three OAG auditors monitored the absentee vote tabulation process on Election Day. Auditors were deputized as Assistant City Clerks to allow full access to the tabulation process and to allow auditors to come and go as needed.

Auditor observations as well as Department of Elections processing statistics are detailed below:

### **Pre Election Day work completed by AVPB**

- Actual staffing level of the AVPB was 256, an increase of 44 over August levels.
- 99% of ballots that had been received prior to Election Day had been processed by the AVPB and were in bags next to the tabulation boards to begin processing by 7:00 am election morning.

### **Tabulation boards start time**

- Check-in and assignment desks efficiently moved workers to the tabulation boards by 7:00 am.
- All workers swore the oath of office at 7:13 am.
- One board had started tabulating ballots at 7:30 am.
- Some boards took longer to settle in and get working, however no significant delays were noted.

### **Training / readiness of workers**

- Job aids were posted at each workstation.
- Section Supervisors and Superintendents aided individual boards by answering questions and resolving problems throughout the day.
- Department of Elections officials estimate the number of ballots outstacked at 6,500, which exceeded the department's estimate by 44%. Department of Elections officials reported that 2,500 ballots were duplicated.
- Duplication of ballots was the most time and worker consuming task, with three workers required by law to duplicate each ballot.

### **Equipment maintenance process**

- Ten backup tabulating machines and five technicians were onsite.
- Technical support responded to calls for assistance with jammed machines. If the problem could not be fixed immediately, a replacement tabulator was brought in and put on-line in about ten minutes.
- Broken machines were taken to an area outside the tabulation area where Department of Elections and vendor technicians worked on repairs.
- Department of Elections officials reported three instances of tabulators being switched out and between 20 and 50 requests for assistance with jammed ballots.

### **Monitoring of tabulation board processing**

- In several instances, auditors observed additional workers added to tabulation boards to assist in the duplication process.
- As the day progressed, three boards were identified as slow performers.
- In one case, the "A-Team", a group of Elections Department workers, known for their efficient processing, replaced the entire board. The precinct had received numerous

smudged ballots that the tabulation machine counted as over-votes. The A-Team was able to process and duplicate the ballots quickly.

- In another case, younger workers were brought in to open ballots, then verify the ballot numbers, remove the stub and stack for tabulation in an effort to get a slow board back on track.

### **Motivation of Workers**

- Representatives from the Department of Elections were professional, courteous, knowledgeable, friendly, helpful and calm.
- Central Counting Board officials kept the momentum going throughout the day by making period announcements of the board's progress. By 10:00 am, approximately 11,000 ballots had been processed. By 4:00 pm, the board estimated that 35,000 ballots had been tabulated.
- At 7:40, a request was made for the current tabulation boards to stay and continue tabulating until the end. The Central Counting Board wanted to use the new crew for closing tasks and did not want to disrupt the synergy that had developed among the tabulation boards and the progress that was being made. A monetary reward was offered to those who stayed.

### **Readiness to process last mail run**

- By 7:15 pm, 28 of the 50 tabulation boards had completely finished processing their ballots and were waiting for more work.
- The remaining tabulation boards were in various stages of completeness – some were still tabulating ballots that had been received during the day, others were duplicating ballots, while others were taking a break and still had duplicating to do.
- Substantially all of the returned ballots had been processed by the AVPB by 7:30 pm.
- The final mail run, received at 8:20, consisted of nearly 200 ballots. Department officials had estimated the run would contain 500 ballots.

### **Transmittal of preliminary results to Elections Department**

- Data memory packs were removed from tabulation machines at 7:30 for the submittal of preliminary results to Department of Elections offices at 8:00 pm via a modem.
- Each data pack was inserted individually into the reader. Transmission took approximately 30 seconds for each pack, or 50 minutes total. After each Section's data packs were transmitted, data packs were returned to the tabulation boards to resume tabulation of any remaining ballots.
- Department of Elections officials report that by 8:00 pm, the Central Counting Board had tabulated 45,000 absentee ballots.

### **Completing the tabulation process**

- The AVPB finished and were sent home at 10:00 pm Election Day, 2-1/2 hours earlier than during the August election.
- Tabulation boards finished counting all 50,454 ballots by 2:30 am Wednesday morning. Using the reengineered process allowed the Central Counting Board to count ten thousand more absentee ballots in 36 fewer hours than in the August primary.
- The final results from the Central Counting Board were transmitted to Department of Election's offices by 2:45 am.
- A check of the Wayne County web site at 11:30 am Wednesday morning showed that results from 717 of Detroit's 720 precincts had been reported to the County.



## **CONCLUSION AND RECOMMENDATIONS**

The overall absentee vote tabulation process is determined by Michigan's election law and the guidelines established by the Secretary of State. Within Michigan, individual municipalities have discretion to establish tabulation procedures that meet their unique circumstances and allow them to count their municipality's votes within the time frame allowed.

Detroit's Central Counting Board tabulated 50,454 absentee ballots in 19-1/2 hours and proved that they could effectively process ballots within the time frame prescribed by law. The Central Counting Board's success can be attributed to the hardworking efforts of Department of Elections' management who were willing to take a risk on an entirely new process. The absentee voter ballot tabulation process was conducted smoothly, and any problems that were encountered had been anticipated and the response was planned.

### **Benchmarking**

Prior to the November election, the OAG surveyed several municipalities within Michigan (Appendix B) and outside the state (Appendix C) to learn about their absent voter ballot tabulation process and to determine whether there are best practices that Detroit could incorporate into its process. While the information gathered is interesting, the comparison serves to highlight the different methodologies that have been put in place to accommodate differences in election law and various circumstances. Some general observations follow:

Within Michigan,

- Some municipalities use a Central Counting Board, while some process the absentee ballots during slow times at the precincts. Genesee County tabulates Flint's ballots after the city has validated the signatures on the returned envelopes.
- Municipalities are using a wide variety of ballot types and tabulation equipment.
- Differences exist in the number of people hired, how they are trained, and when they start and finish the process.

Outside Michigan,

- In many states, counties have the responsibility of administering elections.
- Some states allow early voting at the precinct or at convenient locations around the city, in addition to absentee voting.
- Equipment and ballot types vary. Georgia introduced touch-screen voting at the polls in this election.
- Most of the cities contacted require that the signature on the return envelope be matched to the signature on the voter registration before the ballot is tabulated.
- Start times, ending times, and duties that can be performed prior to Election Day vary according to state law.
- Most, but not all cities review the ballots that cannot be read by the electronic tabulation machines to determine voter intent.

### **Recommendations**

Continue public outreach efforts to educate voters on the proper procedures to follow when completing their absentee voter ballots. Ballots that are voted correctly will not be outstacked, and will not require additional resources on Election Day.

Continue efforts to encourage absentee voters to return their ballots prior to Election Day. Early receipt of ballots allows the processing board the opportunity to validate the ballot before Election Day.

Continue the absentee vote processing board goal to validate all ballots received prior to Election Day before the polls open on Election Day. Delivery of the maximum number of validated ballots to the tabulation boards for the first run eliminates the need for additional tabulation runs and the associated tasks, thereby decreasing the overall processing time.

Continue using self-contained tabulation boards, with each board responsible for tabulation, resolving issues related to outstacked ballots, and duplicating ballots. Spreading the tabulation and duplication efforts between more election inspectors in a compact processing space speeds the overall process.

Continue the training requirement for all Election workers. Require all workers attend a training session before each election, rather than one time per year, as a process refresher. Training is especially important since elections are held intermittently. Even veteran workers need to be re-educated on process steps, changes in state law and new guidelines.

Continue posting job aids at all workstations.

Continue setting internal benchmarks and monitoring the progress of the tabulation boards throughout Election Day in order to resolve problems individual boards are encountering tabulating its precincts. This monitoring control ensures that the tabulation process stays on schedule throughout the day.

Use members of tabulation boards that have completed processing their assigned precincts to assist those who have not finished. Ballot duplication is the most time consuming and resource consuming portion of the tabulation process. Allowing workers to assist other boards will reduce some worker's downtime and reduce the overall tabulation processing time.

Investigate the use of multiple Internet connections and memory pack readers to transmit preliminary election results to Department of Elections offices. The process took around 50 minutes using one transmission reader. Using multiple transmission sites spread throughout the Central Counting Board will shorten the tabulation board's downtime associated with this process.

Continually critique the overall process to identify process bottlenecks or problems and find solutions. The success of November 2002's tabulation process was due to the identification of equipment and performance bottlenecks and finding alternative solutions. Continually assessing the process will lead to a better, solid, streamlined, more efficient process.

Continue working with the Michigan Bureau of Elections to refine outstack and duplication requirements to ensure that all valid votes are accurately counted. Examine the requirement to duplicate entire ballots, when the vote for only one race has been completed incorrectly. Review the rules qualifying a ballot for duplication to ensure that they include the causes of most voter errors.

Continue to measure and monitor the causes of outstacked and duplicated ballots. Detroit processes the most absentee voter ballots and duplicates the most ballots in the state. Department of Elections officials should be able to provide valuable information to the State that can be incorporated into election law and guidelines to ensure that every vote is counted.

## **APPENDIX A – EXCERPTS FROM MICHIGAN ELECTION LAW**

<b>Section</b>	<b>Content</b>
168.679	<p><b>Counting Board</b></p> <p>The legislative body of a city may provide that there shall be an additional board of election inspectors known as a counting board. The counting board shall count the ballots cast in a precinct and make a statement of returns of that count.</p>
168.758	<p><b>Absent Voter Defined</b></p> <p>An absent voter is a qualified and registered elector who meets one of the following requirements:</p> <ul style="list-style-type: none"> <li>• Physical disability which prevents voting at precinct</li> <li>• Religious beliefs prohibit attending the polls on Election Day</li> <li>• Cannot be at polls because they are an election inspector in another precinct</li> <li>• Is 60 years old or more</li> <li>• Is or expects to be absent from the city on Election Day</li> <li>• Is confined to jail awaiting trial or arraignment</li> </ul>
168.759	<p><b>Application for Absent Voter Ballot</b></p> <ul style="list-style-type: none"> <li>• A voter who qualifies as an “absent voter” must apply for an absent voter ballot anytime during the 75 days preceding an election and not later than 2 pm the Saturday before the election.</li> <li>• An emergency absent voter application may be completed before 4 pm on Election Day under limited circumstances. The ballot must be returned to the City Clerk in time to be delivered to the polls by the 8 pm poll closing time.</li> </ul>
168.760	<p><b>Absent Voter Records and Public Inspection</b></p> <p>The City Clerk must maintain a record of the name and address of those voters receiving absentee ballots, the date mailed, the date the ballot is returned from the voter, and other information that may seem necessary or advisable. The applications and lists are open to the public at reasonable hours.</p>
168.761	<p><b>Mailing or Delivering Absent Voter Ballots</b></p> <p>If the Clerk receives an application for an absent voter ballot and the signature on the application agrees with the signature on the voter registration card, the Clerk shall mail or deliver to the applicant a ballot. The outside of the ballot envelope should clearly state the persons who can legally be in possession of an absent voter ballot.</p>
168.764a	<p><b>Instructions for Absent Voters</b></p> <ul style="list-style-type: none"> <li>• Instructions to be included with each ballot are established by law. Instructions include: instructions for voting the ballot, placing the ballot in the secrecy sleeve, sealing the envelope, signing and dating the return envelope, and indicating if assistance was provided to the voter.</li> <li>• The ballot should be returned via mail or delivered personally. The Clerk is required to provide assistance returning the ballot if so requested. Ballots returned to the Clerk after the close of the polls will not be counted.</li> <li>• Voting at a meeting or gathering where others are voting ballots, influencing the voter by the person providing ballot assistance, and unauthorized possession of an absent voter ballot are violations of Michigan election law and are illegal.</li> </ul>
168.764b	<p><b>Delivery and Acceptance of Absent Voter Ballots</b></p> <p>Ballots received timely but not in accordance with the provisions of the instructions shall be marked and processed as a "challenged" ballots.</p>
168.765	<p><b>Safekeeping Absent Voter Ballots and Information Posted by Clerk</b></p> <ul style="list-style-type: none"> <li>• The returned ballot envelope shall not be opened before delivery to the board of election inspectors</li> <li>• Before the opening of the polls or as soon as possible, the Clerk shall deliver the ballots, applications, and clerk's lists relative to absent voters to the election inspectors</li> <li>• The Clerk shall receive all absent voter ballots from the post office in sufficient time to deliver the absentee ballots to the board of election inspectors before the polls close</li> </ul>

Section	Content
	<ul style="list-style-type: none"> <li>• Absentee ballots received after the close of the polls by the Clerk shall be marked with the date and time and retained by the Clerk's office.</li> <li>• On or before 8 am on Election Day, the Clerk shall make public the number of absent voter ballots distributed, the number of return envelopes received before Election Day and delivered to the board of election inspectors or the absent voter counting boards.</li> <li>• On or before 9 pm the Clerk shall make public the number of return envelopes with ballots received on Election Day prior to the closing of the polls and delivered to the board of election inspectors or absent voter counting boards</li> <li>• If the election contains a federal or state office, then as soon as possible after all precincts in the city are processed, the Clerk shall make public the number of absent voter ballot return envelopes containing marked ballots received by the election inspectors at the precincts on Election Day and the total number of absent voter envelopes containing marked ballots received in the City for the election.</li> </ul>
168.766	<p><b>Absent Voter Ballots; Verification by Election Inspectors</b></p> <p>The board of inspectors of election shall verify the legality of the vote by:</p> <ul style="list-style-type: none"> <li>• Examining the registration record to see that the person has not voted in person,</li> <li>• That he is a registered voter,</li> <li>• That the signature on the statement agrees with the signature on the registration record, and</li> <li>• That the statement is properly executed.</li> </ul>
168.767	<p><b>Absent Voter Ballots; Rejection of Ballot</b></p> <p>If the signature on the envelope does not agree sufficiently with the signature on the registration card, or if the board shall know that the person voting has died, or if a majority of the board determines that such vote is illegal for any other reason, then the vote shall be rejected and a board member, without opening the envelope, shall mark across the face of the envelope "Rejected as Illegal" and the reason for rejection. The chairman of the board of election inspectors shall initial the statement. The envelope and ballot shall be returned to the City Clerk and retained and preserved according to the rules for the retention of official ballots.</p>
168.768	<p><b>Absent Voter Ballots; Legal Vote</b></p> <p>If the ballot is determined to be legal, the member of the board receiving the ballot at the election shall open the envelope, take out the ballot and, without unfolding it, detach the perforated numbered corner and deposit the ballot in the proper ballot box. An inspector shall note upon the poll book and list the fact that the voter voted at the election by means of an absentee ballot.</p>
168.769	<p><b>Absent Voter Ballots; Voting in Person</b></p> <p>A person requesting an absent voter ballot may vote within his precinct if the absent voter ballot has not been returned. The absent voter should return the blank absent voter ballot to the board of election inspectors who will mark it "Canceled". If the absent voter has lost the ballot, they must sign an affidavit so stating before being allowed to vote. Voting both an absent voter ballot and in person is a felony.</p>
168.769a	<p><b>Use of Voting Machines by Absentee Voters</b></p> <p>If a city uses voting machines, the Clerk may provide that an absent voter appearing at the Clerk's office any time during the 13 days preceding an election and 4 pm the day preceding the election may vote on a voting machine. Only one ballot format shall appear on a voting machine. Two election inspectors shall be in the office during the time the machine is present. When not in use, the machine shall be locked to prevent voting. A poll list shall be maintained in the same manner as is maintained at a precinct. On Election Day, the votes cast shall be recorded by a counting board. A challenger may monitor this voting process.</p>
168.792a	<p><b>Absent voter counting boards</b></p> <ul style="list-style-type: none"> <li>• Except as otherwise provided, a city that uses voting machines shall be counted by absent voter counting boards (AVCBs). In a city with two precincts or less or with a population over 500,000, the board of election commissioners may decide that the</li> </ul>

Section	Content
	<p>absent voter ballots shall be counted in the precinct.</p> <ul style="list-style-type: none"> <li>• The board of election commissioners establishes the AVCB, the number of boards to be established, and appoints the election inspectors to the boards 10 days or more before the election. The board of election commissioners shall determine the number of ballots that may be expeditiously counted by a board in a reasonable period of time, taking into consideration the size and complexity of the ballot pursuant to the guidelines of the Secretary of State.</li> <li>• If more than one AVCB is used, the Clerk shall determine, at least two days before the election, the number of voting machines or ballot boxes and the number of election inspectors to be used in each of the AVCBs and to which AVCB the absentee ballots from each precinct is assigned. More ballots than the maximum number authorized by the board of election commissioners shall not be assigned to a board. The clerk is not required to use all the boards authorized by the board of election commissioners.</li> <li>• If a city uses AVCBs, absentee ballots will not be delivered to the polling places. The board of election commissioners shall provide a place for each AVCB to count the ballots. The same laws shall apply to absent voter counting places as apply to paper ballot precincts or voting machines respectively. More than one absent voter counting board may be in a building.</li> <li>• The Clerk must provide each AVCB with the supplies necessary to carry out their duties. These supplies must be furnished in the same manner as for other precincts.</li> <li>• Absentee ballots received before Election Day are to be delivered to the AVCB by the Clerk at the time the election inspectors report for duty. Absentee ballots received on Election Day shall be delivered to the AVCB before the time set for poll closing. The ballots shall be delivered in the sealed envelopes in which they were returned to the clerk. Each envelope shall have the date and time received by the Clerk as well as a statement by the Clerk that the signature on the ballot envelope and the registration card have been checked and found to agree. If the signatures do not agree, or if there is no signature, or if the statement of the absentee voter is not properly executed, the Clerk shall mark "rejected," the reason for rejection and the clerk's name on the envelope and the envelope shall not be sent to the AVCB but shall be retained by the Clerk in the manner prescribed by law.</li> <li>• At the time of issuing or mailing absent voter ballots to qualified applicants, the Clerk in cities using AVCBs shall mark the letters "A.V." and the date of election on the registration card of the applicant in the precinct registration file.</li> <li>• An absentee ballot applicant may vote in person subject to the provisions of Section 769. The cancelled ballot must be retained for two years.</li> <li>• AVCBs shall process ballots and returns in as nearly as possible in the same manner as ballots processed in paper ballot precincts. The processing and tallying of absent voter ballots may commence at 7 am on Election Day.</li> <li>• An election inspector, challenger or any other person in attendance at an absent voter counting place at any time after the processing of ballots has begun shall take and sign an oath affirming that they will not communicate any information relative to the processing or tallying of votes until after the polls are closed.</li> <li>• The written oaths shall be placed in the envelope provided and shall be sealed. Except as provided, a person in attendance at the absent voter counting place shall not leave the counting place after the tallying has begun until the polls close. Revealing information before the polls close or causing the polls to close prior to the appointed time is a felony.</li> <li>• The board of election commissioners may authorize the AVCB to use machines to count the votes from the absentee paper ballots. The chairman of the AVCB or his designated alternate shall record the ballots. The act of casting the votes will be performed in the presence of and under the careful observation and full view of all members of the AVCB, party challengers and any other persons lawfully present at the absent voter counting place.</li> </ul>

Section	Content
	<ul style="list-style-type: none"> <li>As soon as the absent voter ballots have been cast on a voting machine but not before 8 pm, the election inspectors shall seal the machine against voting and then proceed to determine and record the votes cast in the manner provided in this act.</li> <li>Voted absent voter ballots shall be placed in a ballot box and the ballot bag and box sealed in the manner provided by the act for paper ballot precincts. The seal numbers shall be recorded on the statement sheet and in the poll book.</li> <li>In a city where challenged voters are required to vote on absent voter ballots, the challenged voter ballot and application for ballot, after having been voted and properly identified, shall be placed by the voter in an absent voter ballot return envelope, marked "Challenged" and delivered to the absent voter counting place by the city clerk. Immediately after the polls close, the chairperson of the precinct board of election inspectors shall notify the Clerk of remaining challenged voter ballots to be delivered to the absent voter counting place. In a city where absent voter counting boards are not used, challenged ballots shall be counted and tallied in the precincts in the same manner that absent voter ballots are handled.</li> <li>A local election official who has established an AVCB, the deputy or employee of that local election official, or an employee of the State Bureau of Elections may enter and leave an AVCB after the tally has begun but before the polls close. They may do so, only, for the purpose of responding to an inquiry from an election inspector or a challenger or to provide instructions on the operation of the counting board. They must take the oath described above before entering. The AVCB chairman shall record their name in the poll book. Disclosure by the person of any election result or, in any manner, characterizing how any ballot being counted has been voted before the time the polls can be legally closed is a felony.</li> <li>The Secretary of State shall develop instructions consistent with this act for the conduct of AVCB. The instructions shall be distributed to Clerks at least 40 days prior to a general election. The Clerk will make the instructions available to the public and shall distribute the instructions to each challenger at an AVCB. The instructions are binding on the operation of and AVCB used in an election empowered to conduct an election under this act.</li> </ul>
168.795	<p><b>Electronic Voting System; Requirements</b></p> <p>An electronic voting system shall meet the following requirements (partial list):</p> <ul style="list-style-type: none"> <li>Provide for voting in secrecy, unless the voter requires assistance as provided in this act,</li> <li>Permit the elector to vote for all persons and offices for whom the elector is lawfully entitled to vote, for as many persons for an office as the elector is entitled to vote, and for or against any question for which the elector is entitled to vote.</li> <li>Except as otherwise provided, the electronic tabulating equipment should reject all choices recorded for an office or a question if the number of choices exceeds the number the elector is entitled to vote for on that office or question.</li> <li>For a primary election, reject a ballot where the elector votes for candidates of more than one political party.</li> <li>Prevent an elector from casting a vote for the same person more than once for the same office.</li> <li>Reject a ballot on which no valid vote is cast.</li> <li>If a choice or ballot is rejected, the elector shall be given the opportunity to have the ballot considered spoiled and to vote another ballot.</li> <li>Record correctly and count accurately each vote properly cast.</li> <li>Provide an audit trail.</li> <li>Provide a method for an elector to vote for a person whose name does not appear on the ballot.</li> </ul>
168.798a	<p><b>Separate Counting Center; Direction and Conduct of Proceedings</b></p> <ul style="list-style-type: none"> <li>If a separate counting center is used, all proceedings shall be under the direction of the Clerk or authorized assistants. The proceedings shall be conducted under observation</li> </ul>

Section	Content
	<p>by the public but no persons, except those authorized to do so, shall touch a ballot or return.</p> <ul style="list-style-type: none"> <li>If a ballot is damage or defective so it cannot be properly counted by the electronic tabulating equipment, a true duplicate copy shall be made and substituted for the damaged or defective ballot. Each duplicate should be marked "Duplicate" and should be numbered. The number should be recorded on the damaged or defective ballot.</li> </ul>
168.798b	<p><b>Electronic Tabulating Equipment; Unofficial and Official Returns</b> The Clerk may conduct an unofficial count to provide early unofficial returns to the public.</p>
168.798c	<p><b>Casting Absentee Votes; Count, Recording, Voting and Processing</b> Absentee votes may be cast on paper ballots or ballot cards. They may be counted in the precincts or by absent voter counting boards. Absentee ballots cast on paper ballots may be recorded by election inspectors on ballot cards for counting by tabulating equipment.</p>
168.799a	<p><b>Recounting Punched, Marked or Stamped Ballot</b></p> <ul style="list-style-type: none"> <li>If the electronic voting system requires the elector to punch out a hole in a ballot, the vote shall not be considered valid unless the hole is completely removed or handing by the equivalent of one or two corners.</li> <li>If the voting system requires that the vote be cast by marking or stamping a predefined area of the ballot, the vote is not considered valid unless there is a mark within the predefined area and it is clearly evident that the intent of the voter was to cast a vote. In determining intent, the election official should compare the mark or stamp to other marks or stamps appearing on the ballot.</li> </ul>
168.803	<p><b>Counting and Recounting of Votes; Rules; Intent of Voter</b> Distinguishing marks or mutilations:</p> <ul style="list-style-type: none"> <li>If a ballot has been mutilated or marked for purposes of distinguishing it, it shall not be counted.</li> <li>A failure to properly mark a ballot as to one or more candidates does not invalidate the ballot unless the improper marking is determined to be a distinguishing mark.</li> <li>Frequently used methods of erasures or correction made by the elector are not distinguishing marks.</li> </ul> <p>Marking of ballots</p> <ul style="list-style-type: none"> <li>If the intersection of a cross mark is within or on the line of the square or circle, it is valid. If the angle of a check mark is within or on the circle or square, it is valid. Cross marks or checks anyplace else on the ballot are not valid.</li> <li>Marks other than crosses or check marks are not valid and may not be counted.</li> <li>Doubling of a line of a cross mark or check does not invalidate the mark.</li> <li>Two lines meeting within or on the line of the square or circle are valid even if they do not cross if it is apparent that the voter intended the mark as a cross or check.</li> <li>If an electronic voting system is used, the mark shall be clearly in the predefined area and the intent of the voter should be clearly evident. The mark should be compared to other marks on the ballot to determine intent if necessary.</li> </ul> <p><b>Other:</b></p> <ul style="list-style-type: none"> <li>Any ballot or part of a ballot from which it is impossible to determine the voter's intent shall be invalid as to that ballot or part of the ballot.</li> <li>Votes for deceased candidate shall not be counted except for governor where the vote shall be counted for the lieutenant governor candidate of the same party.</li> <li>Ballots not counted shall be marked "Not Counted" by the inspector and kept separately and then the package of such ballots shall be placed in the ballot box with the counted ballots.</li> <li>A vote cannot be counted for a candidate unless the square or circle in front of his name is marked or unless the circle or square at the head of the party ticket has been marked.</li> </ul>
168.804	<p><b>Canvass; Tallying</b> Straight ticket ballots shall be counted and tallied first. Then other ballots shall be counted and tallied in such a manner as will best insure accuracy and promptness. All computations</p>



Section	Content
	and tallies shall be made upon the tally sheets.
168.805	<b>Ballots; Packaging; Statement; Placement in Ballot Box; Seal; Delivery</b> After the counting is complete, ballots must be securely packaged and placed in a ballot bag to which an endorsed statement is attached showing the type and number of ballots within. The bags shall be properly sealed and delivered to the Clerk.
168.807	<b>Election Results; Availability</b> Immediately after the canvas is complete, the result, stating the number of votes received in each precinct for any office and the number of votes for and against any proposition shall be made available to interested persons who may be present.
168.821	<b>Meeting of Board of County Canvassers; Place; Time</b> The Board of County Canvassers will meet at the County Clerk's office at 1 pm on the day succeeding the November general election, August primary or presidential primary. The board will convene within five days following any other election.
168.822	<b>Board of County Canvassers; Canvass of Returns; Conclusion</b> The board will proceed without delay to canvass the returns of votes cast according to precinct returns and will conclude such canvass within 14 days. If the board fails to certify the results within the 14 days provided, they shall immediately deliver to the Secretary of State Board of Canvassers all records and other information pertaining thereto. The State Board of Canvassers shall make the necessary determination and certify the results within 10 days of receipt of the records from the county board.
168.932	<b>Prohibited Conduct</b> A person not involved in the counting of ballots may not open the ballot envelope, make a mark on the ballot, alter it, substitute it, or possess another person's absentee ballot.



## **APPENDIX B –** **BENCHMARKING RESULTS - SELECTED MICHIGAN MUNICIPALITIES**

Election officials in six Michigan municipalities were contacted by telephone on October 29, 2002 to obtain information on their method of processing and tabulating absent voter ballots. Four of the municipalities (Livonia, Warren, Grand Rapids and Flint) have populations over 100,000; four of the municipalities are suburbs of Detroit (Livonia, Warren, Canton and Farmington Hills).

Descriptions of the processing and tabulating systems for each municipality are shown below. Table I summarizes the number of ballots processed, staff levels, time to complete the process and whether any pre-Election Day processing is performed.

### **Canton, MI**

Absentee ballots are received daily and logged into the QVS (qualified voter system). The signature on the returned absentee ballot envelope is compared to the signature on the absentee ballot application and the computerized signature database to determine whether the returned ballot is valid. Canton uses bar code labels on the envelopes to assist in matching envelopes to the database. Returned ballots are balanced by precinct and the total ballots received are delivered to the counting board on Election Day.

The counting board commences work at 7:00 am. The counting board double checks the signatures and compares the envelopes to the applications. The envelopes are then opened and the secrecy envelope is removed. The numbered stub is detached from the ballot.

Tabulating, by absentee voter precinct, begins at approximately 1:00 pm using AccuVote single feed tabulating machines. Outstacked ballots are reviewed after the initial tabulation of all absent voter precincts is complete. When possible, ballots are corrected or duplicated and then tabulated. The Canton Township Clerk indicated that they have a low percentage of outstacked ballots, although the number is higher in primary elections than in general elections due to cross voting. The counting board attempts to complete their work by 8:00 pm. In the August primary election, work was completed by 10:30 pm.

Ten to twelve people are involved in processing and tabulating on Election Day. The people are assigned to individual counting boards. Each board has at least three people. In the August 2002 primary more than 4,000 absentee ballots were processed and tabulated. In a general election, the number of absentee ballots increases to approximately 6,000. About 500 absentee ballots are returned on Election Day.

### **Farmington Hills, MI**

Farmington Hills generally uses only one counting board, which is subdivided into teams of three people. For the November 2002 election, two ballots types are required because the city falls into two county commission districts; therefore, two counting boards will be used.

On the Monday preceding Election Day, the returned envelopes containing absentee ballots are scanned using the bar code label on the envelope to generate a listing of the absentee voters. Signatures on the envelopes are verified and the envelopes are sorted into the two absentee voter precincts.

Starting at 7:00 am on Election Day, absentee ballots are processed by voting precinct. Individual teams open the envelopes, verify ballot numbers and remove the numbered stub from the ballot. When all the absentee ballots for a precinct have been processed, the ballots are given to the tabulating team for counting. Farmington Hills uses Optech Eagles to tabulate ballots. In the past, four machines were used but six will be used in the November 2002 election to accommodate the two counting boards. Farmington Hills never purchased the high speed tabulating machines for the Optech system, but chose to purchase additional Eagles for use in tabulating absentee ballots. Another tabulating run is done for the 400 to 500 ballots received on Election Day. The number of absentee ballots received on Election Day has been growing.

Outstacked ballots are reviewed before the run for the precinct is completed. A two-person team duplicates ballots as necessary. Torn or physically damaged ballots are not fed into the tabulating machine but are immediately given to the duplicating team. According to the Farmington Hills Deputy Clerk, most outstacked ballots result from voter error, not from physical damage. The percentage of outstacked ballots increases in primaries due to restrictions on cross voting.

Between 18 and 30 people process and tabulate absentee ballots depending on the volume of absentee ballots anticipated and the availability of workers. The Deputy Clerk indicated that it is getting more difficult to recruit workers particularly for the August primaries. Farmington Hills automatically mails applications for absent voter ballots to voters over the age of 60. Generally 8,000 to 9,000 ballots are mailed out, and between 7,000 and 8,000 ballots are returned in a general election.

The counting board's goal is to complete the processing and tabulating of absentee ballots by 8:00 pm since they want the absentee vote results to be transmitted prior to the receipt of the precinct Eagle packs which normally begin to come in about 8:30 pm. In the August 2002 election, the absentee process was not completed until 9:30 pm due to equipment problems. Four of the tabulators broke down during the day. In addition, equipment breakdowns were also experienced in the precincts.

### **Flint, MI**

The City of Flint processes its own absentee ballots, and delivers the ballots to Genesee County for tabulation. Flint uses a central counting system in general elections, but counts absentee ballots in the individual precincts for primary elections.

Of the six Michigan municipalities contacted, Flint was the only one that reported receiving more absentee ballots during a primary election than in a general election. (5,000 to 6,000 for a primary and 2,000 to 3,000 for a general election) The number of absentee ballots received is also affected by whether there are highly contested races or controversial ballot proposals according to the Assistant to the Elections Supervisor.

Flint uses punch card absentee ballots. Prior to Election Day, signature verification on the returned envelopes is done. An attempt is made to obtain a signature for any

envelope that is missing one. Processing of the absentee ballots generally begins about 9:00 am on Election Day. Seven counting boards consisting of three people each sort and bundle the ballots by precinct. The central counting board's goal is to deliver the processed ballots to the county by 8:30 pm for tabulation. In most cases they have been able to meet this goal.

### **Grand Rapids, MI**

Grand Rapids processes its absentee ballots at the precincts. Grand Rapids receives about 5,000 absentee ballots in a general election and up to 10,000 in a presidential election. Punch card ballots are used at the precinct and for absentee ballots.

Prior to Election Day, signatures are verified for the envelopes returned. An absent voter list is generated for each precinct and sent to the precinct on Election Day. The number of ballots is recorded by precinct and the list is balanced to the physical count prior to being sent to the precinct.

Absentee ballots are delivered to the precincts by four teams. These teams are also responsible for troubleshooting any problems that occur in opening the precincts, equipment mechanical breakdowns and problems during the day. Consequently the delivery of absentee ballots normally begins between 8:00 am and 9:00 am on Election Day. Delivery of the absentee ballots received prior to Election Day is normally completed by noon on Election Day. The absentee ballots received on Election Day are delivered to the precincts by the four delivery teams as needed. About 100 to 200 ballots are received on Election Day.

Absentee ballots are processed during "slow" periods in the precincts. In some precincts, particularly during presidential elections, this may not be possible and they are counted after the poll closes. The precinct is responsible for rebalancing the number of absentee ballots received, opening the envelopes, verifying the ballot number to the absent voter list, detaching the stub, tabulating the ballot and reviewing any rejected (outstacked) ballots. Two people at each precinct (one Democrat and one Republican) conduct the review and duplicate any ballots as necessary. There is not a separate deadline for completing the processing of absentee ballots as each precinct is charged with completing their total count as soon as possible.

### **Livonia, MI**

The City of Livonia expects to receive 9,000 absentee ballots in the November 2002 election. They received approximately 5,600 in the August 2002 primary. Livonia uses six counting boards, each of which is assigned certain geographical precincts to process and count. Livonia uses the Optech system, with each counting board having its own tabulator. Livonia used high-speed tabulators at one time but sold them because of jamming problems and election officials concluded that the machines were not able to tabulate ballots as fast as had been predicted.

No preprocessing of absentee ballots is done except to sort the returned envelopes into precincts. The counting board does signature verification. Ballots are tabulated in batches of 100 within a precinct. Outstacked ballots are reviewed as they occur. Ballots are overridden or duplicated immediately before the run of the 100 ballots is completed.

The goal is to complete the processing and tabulation of absentee ballots as soon as possible. In the August 2002 primary, the processing and tabulating of 5,615 ballots was completed by 9:00 pm. For the November 2002 election Livonia plans to use 37 people in the absentee vote tabulation process.

### **Warren, MI**

The City of Warren uses nine counting boards, a total of 40 people, to process and tabulate absentee ballots. Prior to Election Day, the returned envelopes are date and time stamped when received; the envelope is checked to determine whether there is a signature on it, but the signature is not verified; and the envelopes are sorted into precincts and counting boards.

The processing of absentee ballots by the counting boards begins about 8:30 am on Election Day. On October 28, 10,459 absentee ballots have been mailed out, and 4,958 absentee ballots had been returned. The return rate for absentee ballots is usually between 70% and 80%. Very few absentee ballots are received on Election Day.

Warren uses AccuVote optical ballots for their absentee ballots. The precincts still use lever voting machines. Seven of the counting boards have their own tabulating machine, while two boards, which have a low number of absentee ballots, share the eighth machine. Each board reviews any rejected ballots and overrides or duplicates as appropriate. The process of tabulating the absentee ballots is normally completed between 9:00 pm and 9:30 pm.

**Table I - COMPARISON OF ABSENTEE BALLOT PROCESSING AND TABULATING PROCEDURES  
SELECTED MICHIGAN MUNICIPALITIES**

Municipality	Use a Central Counting Board?	Number of Absentee Ballots Processed in General Election	Number of Additional People to Process and Count AV Ballots	Type of Absentee Ballot	Type of Tabulator	Start Time	Finish Time	Out-stack	Pre-Election Day Processing		Number of Ballots Received on Election Day
									Verify Signature	Balance Precincts	
Canton	Yes	~ 6,000	+ 12	Optical	AccuVote Precinct Tabulator	7:00 am	10:30 pm	Yes	Yes	Yes	~ 500
Detroit	Yes	50,454	694	Optical	Optech Precinct Tabulator	7:00 am	2:30 am	Yes	Yes	Yes	~ 1,500
Farmington Hills	Yes	8,000 - 9,000	18 – 30	Optical	Optech Precinct Tabulator	7:00 am	8:00 pm	Yes	Yes	Yes	~ 400 - 500
Flint	Yes (1)	2,000 - 3,000	21 (2)	Punch card	Not applicable	9:00 am	8:30 pm (3)	n/a	Yes	No	Unknown
Grand Rapids	No	5,000 – 10,000	Not Applicable	Punch card	PBC 2100 Precinct Tabulator	Between 8:00 am and 12:00 pm	By 8:00 pm or after polls close	Yes	Yes	Yes	~ 100-200
Livonia	Yes	5,600 - 9,000	37	Optical	Optech Precinct Tabulator	7:00 am	9:00 pm	Yes	No	No	Unknown
Warren	Yes	~ 8,000	40	Optical	AccuVote Precinct Tabulator	8:30 am	9:30 pm	Yes	No	No	Few

(1) General elections only. During primary elections, absent voter ballots are counted in the precincts.

(2) Tabulation is done by county; tabulating staff not included.

(3) Delivery time to county for tabulating.

## **APPENDIX C – BENCHMARKING RESULTS - SELECTED U.S. CITIES**

Information was obtained by telephone concerning the absentee ballot tabulation process in ten US cities. A summary of the information and the cities contacted is contained in Table II. Tabulation processes vary widely between the cities, as does the number of absentee ballots processed. Qualifications for voting an absentee ballot vary, and affect the number of absentee ballots received. The election process for six of the cities (Atlanta, Columbus, Indianapolis, Pittsburgh, San Antonio, and San Diego) is the responsibility of the county. For cities that are located in more than one county, the respective counties share the responsibility. While the processes differ from Detroit's process, the tabulating systems employed by the cities do provide comparison of methods used to tabulate a large volume of absentee ballots.

### **Atlanta, GA**

Fulton County processes and tabulates the votes for Atlanta using a central counting system. Fulton County processes and tabulates the votes for 289 precincts using 78 different ballots. In a general election there are between 10,000 and 12,000 absentee ballots. This number grows to between 20,000 and 25,000 for a presidential election. Absentee votes are reported as a separate item rather than being combined into the precinct totals.

This year, Fulton County is using a new Diebold optical scan system for absentee ballots. A new touch screen system will be used at the polls. The tabulating equipment for this new system will count 50 to 100 ballots per minute. Previously high-speed punch card tabulating equipment, which could handle 1,000 ballots per minute, was used. The punch card system required about 50 people to process and count the absentee ballots.

Signatures are verified prior to Election Day. About noon on Election Day, the envelopes are slit open, although the ballots cannot be removed from the envelopes at this time. At 7:00 pm, when the polls close, the absentee ballots are removed from the return envelopes and are processed. Outstacked ballots are reviewed during the tabulation of the precinct and corrections or duplications made prior to the run being completed.

Georgia state law does not set a deadline for counting absentee ballots. The canvassers meet one week after Election Day to certify results. In the past, Fulton County has completed the counting of their absentee ballots between midnight and "breakfast time" the next day.

Requirements for qualifying for an absentee ballot are similar to Michigan's requirements except that the age qualifier is 75 years or older rather than 60 years.

### **Baltimore, MD**

Baltimore uses a Board of Canvassers as their central counting board, consisting of five commissioners and three to six teams of three people each. No preprocessing is done before the Board begins work about 10:00 am on the Thursday after Election Day. Between 3,500 and 5,000 absentee ballots are processed by the Board, including verification of the voter signatures.

Absentee ballots are cast using an AIS optical scan system, which Baltimore has used for about twelve years. The precincts use a different optical scan system. Tabulating equipment

processes about 250 ballots at a time. Outstacked ballots are reviewed to determine voter intent and corrected or duplicated as appropriate. About one percent of the ballots are outstacked. Generally the processing and tabulating of the absentee ballots is completed by the close of business on Thursday. Ballots must have been received by the closing of the polls on Election Day, except for ballots from overseas, to be included in the tabulation.

The requirements for qualifying for an absentee ballot are similar to those used by Michigan except that age (65 years or older) is a qualifier only if the polling place is determined to be "inaccessible."

### **Boston, MA**

Absentee ballots are counted in the precincts unless the polling places become overwhelmed at which time the Election Commission will assist in the counting of the absentee ballots.

Paper ballots are used for absentee votes while poll voters use machines. The paper ballots are hand tallied in the precincts. Absentee ballots are supposed to be processed during the day starting at 7:00 am in the precincts but often this is not possible and tallying begins after 8:00 pm when the polls close. About 5,000 absentee ballots are expected in the November 2002 election but presidential elections can generate 8,000 to 10,000 absentee votes.

Qualifying for an absentee ballot is more limited than in Michigan. There is no age qualifier. Boston does have "early" voting which must be done in person prior to Election Day.

### **Columbus, OH**

Franklin County counts the votes for Columbus using a central system. Signatures are verified and the returned absentee ballots are logged in prior to Election Day. The central board opens the ballots, reviews them for chad problems and also tabulates them. A punch card system is used for absentee voting while machines are used for poll voting. High-speed tabulators are used to count the absentee ballots. Approximately 20 people are involved in the absentee ballot processing and tabulating. They begin the process at 7:30 pm when the polls close and usually take about 1-½ hours to complete. Ballots are not outstacked because of the visual inspection for chad problems that is done prior to the ballots being fed into the high-speed tabulator.

Absentee ballot qualifiers are similar to those used in Michigan.

### **Indianapolis, IN**

Marion County administers the election process for Indianapolis. Paper absentee ballots are counted in the precincts although voting at the polls is done by machine. In the August election approximately 4,500 absentee ballots were received. Between 10,000 and 15,000 absentee ballots are expected for the November 2002 election. The processing and tabulating of absentee ballots begins when the polls close. There is a visual review of problem ballots to determine voter intent.

Marion County permits in-person absentee voting until noon of the day before Election Day in the clerk's office. They also have traveling boards that go to a voter's residence to permit the voter to cast their ballot. Primarily elderly voters use this service. The county has 914 precincts and over 500,000 registered voters.

### **Las Vegas, NV**

Las Vegas County processes and tabulates ballots for the City of Las Vegas using a centralized system. Five days prior to the election, the election board convenes to verify the signatures on the absentee ballot envelopes and to sort the ballots by precinct. They remove the ballots from the envelopes and review them for physical problems such as rips, tears and hanging chads. Ballots are corrected or duplicated as necessary at this point. The ballots are then locked up until Election Day. All ballots received by 7:00 pm on Election Day are counted.

In the last presidential election, 60,000 absentee ballots were mailed out and about 50,000 were returned and processed. Approximately 40,000 ballots have been mailed for the November 2002 election with an expected return of 30,000. About 44% of the voters in Las Vegas County voted by absentee ballot in the most recent primary. In addition to the absentee ballots, Nevada permits early in-person voting. The combined number of people using the absentee voter and early vote options is expected to be 100,000 in November 2002.

The county uses 16 to 18 people, divided into two person teams, to process, review and duplicate the absentee ballots. Four people count the absentee and early votes starting at 7:00 pm Election Day. It took four hours to tabulate 50,000 absentee votes using high speed tabulating machines in the most recent presidential election. Touch screen voting is used at the polls, while absentee votes are cast on a punch card system. Absentee ballots are usually completely tabulated by about 11:00 pm Election Day. Ballots are not outstacked since physical ballot problems (i.e. hanging chads) have been taken care of in the five days prior to tabulation. No review is done during the tabulating process to review punch cards that are over-voted.

Nevada has open absentee voting. Anyone who wishes to vote by absentee ballot may do so. In precincts with fewer than 200 registered voters, absentee or early voting is required.

### **Milwaukee, WI**

Milwaukee counts its absentee ballots in the precincts. About 10,000 absentee ballots are expected to be returned in the November 2002 election. In a primary election the number of absentee ballots is less than for a general election, with about 5,500 absentee ballots processed in the most recent election. Between 100 and 500 absentee ballots are received on Election Day. To be counted, absentee ballots must be received before the polls close on Election Day. The city is divided into seventeen districts. Runners deliver the absentee ballots received on Election Day to the precincts.

No processing is done in advance of Election Day except to sort the returned envelopes into precincts. Signatures are not verified because the signature must be witnessed which, according to the Milwaukee Election Commission, eliminates the need for signature verification. The ballots are placed in the tabulating machine and sealed until the morning of Election Day when the poll workers open the machines. Optical scan ballots are used both in the precincts and for absentee ballots.

A two-person team at the precinct reviews outstacked ballots. If voter intent can clearly be determined, the ballot is corrected or duplicated as necessary.

Wisconsin has had open absentee voting for the past three or four years. There are no qualifiers.



## **Pittsburgh, PA**

Pennsylvania elections are administered at the county level. Allegheny County does not use a centralized counting system for absentee ballots. The paper absentee ballots are sent to each of the 1,309 precincts sealed in the voting machines. The absentee ballots must be the first ballots counted at the polls. Counting begins at 8:00 pm. Absentee ballots must be received by the clerk's office no later than 5:00 pm on the Friday before Election Day in order to be included in the tabulation.

The county has 930,000 registered voters. In presidential elections, between 28,000 and 32,000 absentee ballots are cast. In non-presidential elections about 11,000 absentee ballots are received. Qualifiers for receiving an absentee ballot are limited to physical disability, absence from the municipality and religious restrictions. There is no age qualifier.

## **San Antonio, TX**

Texas has 256 counties. If the county has an election administrator who is responsible for elections then the county must, upon request by a municipality, count the ballots for the requesting municipality. If an elected official such as the county clerk is responsible for elections, the county is not required to count ballots for a municipality. Ballots for the City of San Antonio are counted by Bexar County, which had 823,731 registered voters as of March 2000.

Texas permits early in-person voting, including curbside voting, as well as absentee voting. As of October 29, 2002, the county had received over 91,000 early and absentee ballots. The total early and absentee ballots are expected to be between 100,000 and 150,000 for the November 2002 election. The number of absentee ballots in a primary election could fall to the 5,000 to 10,000 range. The qualifiers for absentee voting are similar to those used in Michigan except that the age qualifier is 65 years. There are no qualifiers for early voting.

An optical scan system is used for absentee and early voting, using a Sharpie marker as the marking device. Prior to Election Day, signatures are verified on the returned absentee ballot envelopes. Early voting ballots do not have a signature since the voter appeared in person to vote. The early voting ballot envelope is stamped with a special early voting stamp before being forwarded to the clerk's office. If an envelope has either a valid signature or the early voting stamp, it is sorted into one of 651 precincts, which are aggregated into 51 early voter precincts.

Tabulation of the absentee and early ballots starts between 8:00 and 9:00 am. on Election Day. Eighteen high-speed tabulating machines are used. There is a two-member board for each machine that reviews any ballots that cannot be processed by the machine. If necessary the ballot is duplicated and returned to the tabulator so that the precinct can be finished and balanced. Write-ins must be manually tallied. Generally the tabulating of the absentee and early ballots is finished shortly after 7:00 pm, which is the time the polls close. Ballots from the polls begin to be counted upon the closing of the polls.

Between eight and 100 people are required to conduct the absentee and early voting Election Day processing and counting. The actual number of people scheduled is dependent on the volume of absentee and early ballots that are expected to be returned.

The county hopes to inaugurate a touch screen early voting system by November 2003.

## **San Diego, CA**

Votes cast in the City of San Diego are counted by San Diego County, which uses a centralized system to process and tabulate absentee ballots. Approximately 240,000 absentee ballots have been issued for the November 2002 election. It is anticipated that 175,000 of them will be returned. In the March 2002 primary, 116,187 absentee ballots were returned while 160,000 were issued. In the next election, the county expects that more absentee ballots will be used, as they will convert to an open absentee system with no qualifiers either for one-time or permanent absentee voting for an elector.

The punch card absentee ballots must be received by the closing of the polls at 8:00 pm on Election Day. Seven days before the election the signatures are verified, the return envelope is opened and the stubs removed. The ballots are then sorted by ballot styles. The county has 2,138 precincts, which use 663 ballot styles. The ballots are reviewed for hanging chads, tears and other physical problems. A separate "remake" board duplicates ballots as necessary to correct the physical problems. The ballots are then stored until Election Day.

About 20 people are used during the pre-election period to open, review and verify signatures on absentee ballots. Four tabulating machine operators are used plus at least two people to act as the "remake" board. The county uses Votomat high-speed tabulators. Tabulation, which begins at approximately 2:00 pm on Election Day, is run by ballot style. It takes 2 to 2-½ hours to complete the tabulation. Since approximately 60,000 absentee ballots are returned in person to the polls or the clerk's office on Election Day, the 2:00 pm run is only preliminary. The counts for post Election Day tabulations are "added-on" as they are done. Generally additional tabulation runs are completed by the afternoon of the Thursday following Election Day. If necessary, additional tabulation runs are done on the Friday and Monday following Election Day. No results from the tabulation are released on Election Day until after the polls close.

If the high-speed tabulators cannot read a ballot, there is no additional review done during tabulating. Election results in California must be certified within 29 days after the election.

**Table II - COMPARISON OF ABSENTEE BALLOT PROCESSING AND TABULATING PROCEDURES  
SELECTED U.S. CITIES**

Municipality	Use a Central Counting Board?	County Runs Election	Number of Absentee Ballots Processed	Number of People to Process and Count	Type of Absentee Ballot	Type of Tabulator	Start Time	Finish Time	Review Ballots Not Read by Tabulation Equipment	Pre-Election Processing		In-Person Early Voting
										Verify Signature	Other	
Atlanta GA	Yes	Yes	10,000 - 25,000	~ 50	Optical – Diebold	Diebold High-Speed Tabulator	7:00 pm	Early Morning Next Day	Yes	Yes	Slit open envelopes at noon	No
Baltimore MD	Yes	No	3,500 - 5,000	14 – 23	Optical – AIS	AIS – High-Speed Tabulator	Following Thursday	Close of business Thursday	Yes	No	No	No
Boston MA	No	No	5,000 - 10,000	n/a	Paper	Hand tally in precincts	7:00 am	When Precincts Finish	n/a	Not determined	Not determined	Yes
Columbus OH	Yes	Yes	15,000 - 20,000	~ 20	Punch card	ESF High-Speed Tabulator	7:30 pm	9:00 pm	No	Yes	Log	No
Detroit MI	Yes	No	50,454	694	Optical – Optech	Optech Eagle Precinct Tabulator	7:00 am	2:30 am	Yes	Yes	Sort into precinct	No
Indianapolis IN	No	Yes	4,500 - 15,000	n/a	Paper	Hand tally in precincts	6:00 am	When Precincts Finish	Yes	Not determined	Not determined	Yes
Las Vegas NV	Yes	Yes	30,000 - 50,000	20 – 22	Punch card	High speed	7:00 pm	11:00 pm	No	Yes	Open review, duplicate, store	Yes
Milwaukee WI	No	No	5,500 - 10,000	n/a	Optical	Tabulator in precinct	8:00 am	When Precincts Finish	Yes	Not done	Sort into precincts	No
Pittsburgh PA	No	Yes	11,000 - 32,000	n/a	Paper	Not determined	8:00 am	When Precincts Finish	Not determined	Not determined	Not determined	Not determined
San Antonio TX	Yes	No	5,000 - 150,000	8 to 100	Optical	ESSN 550 high speed	8:00 am	7:10 pm	Yes	Yes	Sort	Yes
San Diego CA	Yes	Yes	116,000 - 175,000	24	Punch card	High speed	2:00 pm	Preliminary - 4:30 pm. Add-ons through Monday.	No	Yes	Open review, duplicate, store	Yes